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10/775,749	02/10/2004	Kyle G. Peltonen	MSFT122348	8729

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EXAMINER	
OMOSEWO, OLUBUSOLA	
ART UNIT	**PAPER NUMBER**
2168	
MAIL DATE	**DELIVERY MODE**
05/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/775,749	PELTONEN ET AL.	
	Examiner	Art Unit	
	OLUBUSOLA ONI	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02/07/2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-21 and 23-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-21 and 23-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communications: Amendment filed on 02/07/2007.
2. Claims 1, 23 and 26 have been amended. Claims 4 and 22 have been cancelled.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 5-21 and 23-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Parikh Prashant (Pub No. U.S. 2005/0060304)

For claim 1, Parikh teaches "obtaining keyword data corresponding to a set of data (See paragraph [0032]); generating an inverted keyword index and an inverted keyword attribute index corresponding to the keyword data (See paragraph 0034-036, 0043-0053 0086, 0250]); storing the inverted keyword index and the inverted keyword attribute index in a shared process memory (See paragraph [0032, 0043, 0250]); obtaining a keyword query from a first process (See paragraph [0032, 0257]); and processing the keyword query from the inverted keyword index in a shared memory" (See paragraph [0032])

For claim 2, Parikh teaches "wherein the set of data corresponds to a set of documents"(See paragraph [0032, 0040])

For claim 3, Parikh teaches "wherein the set of data corresponds to a set of rows in a database"(See paragraph [0240])

For claim 4, Parikh teaches "wherein generating an inverted keyword index includes generating an inverted keyword attribute index"(See paragraph [0034-036, 0043-0053, 0058-0065, 0086, 0250])

For claim 5, Parikh teaches "wherein the inverted keyword attribute index corresponds to keyword occurrence information in the set of data"(See paragraph [0250, 0236, 0333])

For claim 6, Parikh teaches "wherein an inverted keyword attribute index corresponds to data selected from the group consisting of language information, format information, sentence information, ranking information, document timestamp information, and metadata information"(See paragraph [0032, 0240])

For claim 7, Parikh teaches "wherein the inverted keyword index and the inverted keyword attribute index correspond to red and black index trees"(See paragraph[0032, 0041-0043])

For claim 8, Parikh teaches "wherein storing the inverted keyword index includes dynamically adjusting memory pointers corresponding to the inverted keyword index"(See paragraph [0086-0110])

For claim 9, Parikh teaches "a computer-readable medium having computer-executable instructions for performing the method recited in claim 1" (See paragraph [0218-0219])

For claim 10, Parikh teaches "a computer system including a processor, a memory, and an operating environment, the computer system operable to perform the method recited in claim 1"(See paragraph [0218-0220])

For claims 11 this claim is rejected on grounds corresponding to the arguments given above for rejected claim 1 and is similarly rejected.

For claims 12 this claim is rejected on grounds corresponding to the arguments given above for rejected claim 2 and is similarly rejected.

For claims 13 this claim is rejected on grounds corresponding to the arguments given above for rejected claim 3 and is similarly rejected.

For claims 14 this claim is rejected on grounds corresponding to the arguments given above for rejected claim 5 and is similarly rejected.

For claims 15 this claim is rejected on grounds corresponding to the arguments given above for rejected claim 6 and is similarly rejected.

For claims 16 this claim is rejected on grounds corresponding to the arguments given above for rejected claim 7 and is similarly rejected.

For claim 17, Parikh teaches "obtaining the first keyword from the set of data (See paragraph [0032]); inserting the keyword into the inverted keyword index (See paragraph [0086, 0032-036, 0043-0053, 0058-0065]); inserting keyword attribute data corresponding to the keyword into a temporary keyword attribute index (See paragraph

[0250]); repeating (a)-(c) for all keyword data in the set of data (See paragraph [0032,0250]); and (e) converting the temporary keyword attribute index into the inverted keyword attribute index in the shared process memory buffer"(See paragraph [0032,0250])

For claim 18, Parikh teaches "obtaining a keyword query from a process; and processing the keyword query from the inverted keyword index in the shared memory buffer"(See paragraph [0032]).

For claim 19, Parikh teaches "obtaining a second keyword query from a second process; and processing the keyword query from the inverted keyword index in the shared memory buffer"(See paragraph [0032]).

For claim 20 this claim is rejected on grounds corresponding to the arguments given above for rejected claim 8 and is similarly rejected.

For claim 21 this claim is rejected on grounds corresponding to the arguments given above for rejected claim 9 and is similarly rejected.

For claim 22 this claim is rejected on grounds corresponding to the arguments given above for rejected claim 10 and is similarly rejected.

For claim 23, Parikh teaches "one or more processes for issuing keyword queries (See paragraph [0032, 0257]); an index generation component for obtaining a set of data and generating an inverted keyword index and an inverted keyword attribute index (See paragraph [0034-036, 0043-0053, 0058-0065, 0086, 0250]); a shared memory buffer for storing the inverted keyword index and the inverted keyword attribute index of a set of data (See paragraph [0032, 0043, 00250]); and a query processing component for processing keyword queries issued by the one or more processes from the inverted keyword index stored in the shared memory buffer"(See paragraph[0032])

For claim 24 this claim is rejected on grounds corresponding to the arguments given above for rejected claim 2 and is similarly rejected.

For claim 25 this claim is rejected on grounds corresponding to the arguments given above for rejected claim 3 and is similarly rejected.

For claim 26, Parikh teaches "wherein the shared memory buffer includes the inverted keyword attribute index corresponding to each node in the inverted keyword index"(See paragraph [0032, 0250]).

For claim 27 this claim is rejected on grounds corresponding to the arguments given above for rejected claim 5 and is similarly rejected.

For claim 28 this claim is rejected on grounds corresponding to the arguments given above for rejected claim 6 and is similarly rejected.

For claim 29 this claim is rejected on grounds corresponding to the arguments given above for rejected claim 7 and is similarly rejected.

For claim 30 this claim is rejected on grounds corresponding to the arguments given above for rejected claim 8 and is similarly rejected.

For claim 31, Parikh teaches "a disk subsystem for storing at least a portion of the inverted keyword index of a set of data (See paragraph [0043]); and a merge process for merging the inverted keyword index in the shared memory with the portion of the inverted keyword index in the disk subsystem"(See paragraph [0032])

Response to Argument

5. Applicant 's arguments filed January 7, 2007 been fully considered but they are not persuasive. The examiner respectfully transverse applicant's argument.

As per claims 1 and 23, applicant argued that Parikh does not teach "generating an inverted keyword index and an inverted keyword attribute index corresponding to the keyword data". On the contrary Parikh teaches at paragraph 0043-0053, 0058-0065

and 0086, inverted keyword index is created, associating the keywords with the nodes, such as creating an inverted index to include the association of fruits with apple and orange as in paragraph 0043. Likewise at paragraph 0250, Parikh teaches indexing the frequency of occurrence and ranking of the keywords (inverted keyword attribute index), such as pizza which occurs 5 times and mushroom which occurs twice, which is the indexed information of the occurrence, and is synonymous to applicants teachings of an inverted keyword attribute index.

Applicant also argued that Parikh does not teach "storing the inverted keyword index and the inverted attribute index in a shared process memory". On the contrary at 0043-0046, Parikh teaches creating an inverted index to include the association of fruits with apple and orange, and the information can be stored in a file. Parikh's teachings include storing an inverted keyword index associated with the location of these keywords to a tree in a file. However, Parikh explains at paragraph 0032 that the files are stored on a hard drive of a personal computer or cell phones. Likewise at paragraph 0250, Parikh teaches wherein the frequency of occurrence (attribute data) of the keyword and also the ranks of the keywords are indexed i.e. the information about the occurrence of pizza and mushroom is indexed (temporary keyword attribute index). However, applicant admitted that Parikh teaches the use of a final inverted keyword attribute index, which is stored in the file. However, the files are stored on a hard drive of a personal computer or cell phones. Therefore at paragraph 0250, Parikh teaches retrieving keywords based on the ranking and frequency of occurrence, using the find application of either a computer or cell

phone, however, in other to retrieve this information, the final attribute index must also be saved in the file, stored on a hard drive of the personal computer or cell phone.

Applicant also argued that Parikh does not teach "adjusting the memory pointers corresponding to the inverted keyword index". On the contrary Parikh teaches at paragraph 0086-0110, a user searching the inverted index with a keyword and fail to locate the keyword, however, the system suggest a keyword to the user, based on the users response, a new keyword will be derived and as a result a subsequent use of the term will enable the system to jump directly to the keyword corresponding to the inverted keyword index when next searched. Thus teachings are synonymous.

As per claim 17, Applicant argued that Parikh does not teach "inserting the keyword attribute data corresponding to the keyword into a temporary keyword attribute index and converting the temporary keyword attribute index into the inverted keyword attribute index in the shared process memory buffer" on the contrary, at paragraph 0250 Parikh teaches wherein the frequency of occurrence (attribute data) of the keyword and also the ranks of the keywords are indexed i.e. the information about the occurrence of pizza and mushroom is indexed (temporary keyword attribute index). However, applicant admitted that Parikh teaches the use of a final inverted keyword attribute index, which is stored in the file. However, the files are stored on a hard drive of a personal computer or cell phones. Therefore at paragraph 0250,

Parikh teaches retrieving keywords based on the ranking and frequency of occurrence, using the find application of either a computer or cell phone, however, in other to retrieve this information, the final attribute index must also be saved in the file, stored on a hard drive of the personal computer or cell phone. Thus teachings are synonymous.

CONCLUSION

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLUBUSOLA ONI whose telephone number is 571-272-2738. The examiner can normally be reached on 7.30-5.00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIM VO can be reached on 571-272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

OLUBUSOLA ONI KBP

Examiner

Art Unit 2168

TIM VO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100